

**ABSTRACT**

The invention is concerned with a resistive fault current limiter (FCL) based on thin superconducting films. The FCL comprises constrictions (2) with a reduced critical current, separated by connecting paths (3). Upon occurrence of a fault current, the former turn resistive simultaneously and build up a resistance which allows the applied voltage to drop entirely only over the constrictions. Only at a later stage, the connecting paths become resistive and dissipate energy. The thickness and width of an electrical bypass determine said normal resistivities of the constrictions and the connecting paths.

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Fig.3